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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,607	12/14/2000	Simon Love	4481-037	5783

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Allan M. Lowe  
c/o Lowe, Hauptman, Gopstein Gilman & Berner  
Suite 310  
1700 Diagonal Road  
Alexandria, VA 22314

EXAMINER

HOM, SHICK C

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/735,607

**Applicant(s)**

LOVE ET AL.

**Examiner**

Shick C Hom

**Art Unit**

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/14/00, 2/2/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                                       |                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/14/00, 2/2/04</u> . | 6) <input type="checkbox"/> Other: _____                                                |

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 line 6, claim 5 line 2, and claim 8 line 5 which recite the next expected number lack clear antecedent basis because no next expected number have been previously recited in the claims and therefore the limitation is not clearly understood. In claim 1 line 7 and claim 8 line 6-7 which recite a packet is not clear as to how it relates to the packets of claim 1 line 2 and whether it is reciting one of the packets of claim 1 line 2 and claim 8 line 1, respectively. In claim 3 line 1 which recite the TCP traffic lacks clear antecedent basis. In claim 5 line 3 which recite the lost TCP payload lack clear antecedent basis. In claim 8 line 8 which recite the transmission quality lack clear antecedent basis.

Claims 2, 4, 6-7, and 9-12 are rejected under 35 U.S.C. 112, second paragraph because they depend from rejected claims 1 and 8, respectively.

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**Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Sabaa et al. (6,389,016).

Regarding claim 1:

Sabaa et al. disclose the method of measuring the efficiency of data transmission in a network in which data packets have sequence numbers and sending stations retransmit packets which are deemed to be lost (see col. 2 line 47 to col. 3 line 63 which recite retransmitting lost packets using packets having sequence number), comprising the steps of: monitoring the occurrence of packets at a point in the network; tracking the sequence numbers of successively monitored packets (see col. 7 line 64 to col. 8 line 15 and col. 10 lines 38-51 which recite the step of

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tracking sequence numbers); attributing a sequence number less than the next expected number to retransmission of a packet (see col. 2 line 47 to col. 3 line 63 which recite comparing the sequence number with the expected sequence number to determine the sequence number being less than the expected sequence number and retransmission of lost packet) and incrementing a retransmission count in accordance with the quantity of retransmitted data (see col. 6 lines 23-30 which recite incrementing the expected sequence number when a packet is accepted clearly reads on incrementing a count in accordance with quantity of data); and reporting the retransmission count as indicative of the transmission efficiency (see col. 2 line 41 to col. 3 line 63 and col. 7 lines 32-44 which recite retransmission including use of a counter).

Regarding claim 8:

Sabaa et al. disclose the method of monitoring data transmission in a network in which data packets have sequence numbers and sending stations retransmit packets which are deemed to be lost (see col. 2 line 47 to col. 3 line 63 which recite retransmitting lost packets using packets having sequence number), comprising the steps of: monitoring the occurrence of packets at a point in the

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network; tracking the sequence numbers of successively monitored packets (see col. 7 line 64 to col. 8 line 15 and col. 10 lines 38-51 which recite the step of tracking sequence numbers); attributing a sequence number greater than the next expected number to loss of a packet (see col. 2 line 47 to col. 3 line 63 which recite comparing the sequence number with the expected sequence number to determine the sequence number being greater than the expected sequence number and retransmission of lost packet) and incrementing a loss count in accordance with the quantity of lost data (see col. 6 lines 23-30 which recite incrementing the expected sequence number when a packet is accepted clearly reads on incrementing a count in accordance with quantity of data); and reporting the loss count as indicative of the transmission quality (see col. 2 line 41 to col. 3 line 63 and col. 7 lines 32-44 which recite retransmission including use of a counter).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35

U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sabaa et al. (6,389,016) in view of Hong et al. (6,563,821).

Regarding claims 2-7 and 9-12:

For claims 2-7 and 9-12, Sabaa et al. disclose the method described in paragraph 3 of this office action. For claims 2-7 and 9-12, Sabaa et al. disclose all the subject matter of the claimed invention with the exception of wherein the network uses TCP as in claim 2; wherein the TCP

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traffic at the monitored point is coherent TCP traffic which traverses the monitored point in the order of packet transmission as in claim 3; wherein at least one specific connection is selected for monitoring by reference to one or more of the IP address of a connection end-point, a port at an end-point and a protocol as in claims 4, 9; the step of attributing a sequence number greater than the next expected number to loss of a packet and incrementing a loss count by the size of the lost TCP payload, wherein the loss count is used to determine the location of a fault relative to the location of the monitoring point as in claims 5, 10; wherein counts obtained from different monitoring points are compared to determine the location of the fault as in claims 6, 11; and the step of deriving a measure of total volume of packets transmitted as a function of the retransmission count as in claims 7, 12.

Hong et al. from the same or similar fields of endeavor teach that it is known to provide wherein the network uses TCP (see col. 34 lines 30-56 which recite the use of TCP); wherein the TCP traffic at the monitored point is coherent TCP traffic which traverses the monitored point in the order of packet transmission (see col. 34 lines 30-56 which recite monitoring transmission at the TCP/IP



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port); wherein at least one specific connection is selected for monitoring by reference to one or more of the IP address of a connection end-point, a port at an end-point and a protocol (see col. 34 lines 30-56 which recite monitoring transmission at the TCP/IP port); the step of attributing a sequence number greater than the next expected number to loss of a packet and incrementing a loss count by the size of the lost TCP payload, wherein the loss count is used to determine the location of a fault relative to the location of the monitoring point (see col. 26 line 17 to col. 28 line 20); wherein counts obtained from different monitoring points are compared to determine the location of the fault (see col. 40 line 65 to col. 41 line 10 which recite detecting lost fragments by comparing the sequence numbers); and the step of deriving a measure of total volume of packets transmitted as a function of the retransmission count (see col. 26 line 17 to col. 28 line 20). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide the network using TCP; wherein the TCP traffic at the monitored point is coherent TCP traffic which traverses the monitored point in the order of packet transmission; wherein at least one specific connection is

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selected for monitoring by reference to one or more of the IP address of a connection end-point, a port at an end-point and a protocol; the step of attributing a sequence number greater than the next expected number to loss of a packet and incrementing a loss count by the size of the lost TCP payload, wherein the loss count is used to determine the location of a fault relative to the location of the monitoring point; wherein counts obtained from different monitoring points are compared to determine the location of the fault; and the step of deriving a measure of total volume of packets transmitted as a function of the retransmission count as taught by Hong et al. in the communications method of Sabaa et al. The network using TCP; wherein the TCP traffic at the monitored point is coherent TCP traffic which traverses the monitored point in the order of packet transmission; wherein at least one specific connection is selected for monitoring by reference to one or more of the IP address of a connection end-point, a port at an end-point and a protocol; the step of attributing a sequence number greater than the next expected number to loss of a packet and incrementing a loss count by the size of the lost TCP payload, wherein the loss count is used to determine the location of a fault relative

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to the location of the monitoring point; wherein counts obtained from different monitoring points are compared to determine the location of the fault; and the step of deriving a measure of total volume of packets transmitted as a function of the retransmission count can be implemented by providing the TCP/IP protocol in the network of Sabaa et al. The motivation for using TCP/IP as taught by Hong et al. in the communications method of Sabaa et al. being that it provides the added feature of connection to the Internet.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.  
Thomas et al. disclose tracking sequence numbers in packet data communication system.  
Davis et al. disclose a method and system in a data communications system for the establishment of multiple, related data links and the utilization of one data link for recovery of errors detected on another link.
8. Any response to this nonfinal action should be mailed to:

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Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306, (for Technology Center 2600  
only)

Hand-delivered responses should be brought to  
Crystal Park II, 2121 Crystal Drive, Arlington.  
VA., Sixth Floor (2600 Receptionist at (703)  
305-4750).

Any inquiry concerning this communication or earlier  
communications from the examiner should be directed to  
Shick Hom whose telephone number is (703) 305-4742. The  
examiner's regular work schedule is Monday to Friday from  
8:00 am to 5:30 pm EST and out of office on alternate  
Friday.

If attempts to reach the examiner by telephone are  
unsuccessful, the examiner's supervisor, Seema Rao, can be  
reached at (703) 308-5463.

Any inquiry of a general nature or relating to the  
status of this application or proceeding should be directed

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to the Technology Center 2600 Customer Service Office whose  
telephone number is (703) 306-0377.

*Seema S. Rao*  
SEEMA S. RAO 8/9/04  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

SH

August 7, 2004